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APPLICANT : KATO SHUNSAKU;

INVENTOR : KATO KUNICHI;

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TITLE : PRODUCTION OF TITANIUM OXIDE FILM

ABSTRACT : PROBLEM TO BE SOLVED: To easily form a titanium oxide film with certainty by coating a base material with titanium oxide sol and then irradiating the coated surface, in this state or after drying, with microwaves.

SOLUTION: As the base material, any material, organic and inorganic alike, such as glass, ceramics, wood, bamboo, and activated carbon, suffices as long as it has a surface shape to which titanium oxide sol can adhere. Although there are no particular restrictions on the kind of titanium oxide, titanium oxide used for paint, cosmetics, tooth powder, etc., can be suitably used. The microwave used here is ordinarily an electromagnetic wave of 300 MHz to 30 GHz frequency, preferably, that of 245 MHz used for an electronic oven for domestic use. As the crystal form of the titanium oxide film to be formed, anatase with high performance as photocatalyst is preferred. The resultant titanium oxide film is porous and increased in specific surface area and can adsorb the organic compounds contaminating the environment and decompose them by sunlight, etc.

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